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## Early planting of soybean is very important

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# Early planting of soybean is very important

## **Abstract**

Early planting is extremely important to maximize yield, but it also takes greater management. Over the last three growing seasons, soybean planting has started earlier and occurred more rapidly in Iowa than ever before. The last three years also have been three of the highest yielding years in state history. The problem is that too many farmers are still planting their soybean way too late.

## **Disciplines**

Agriculture | Agronomy and Crop Sciences



## Crop Production

# Early planting of soybean is very important

by Palle Pedersen and Jason De Bruin, Department of Agronomy

**E**arly planting is extremely important to maximize yield, but it also takes greater management. Over the last three growing seasons, soybean planting has started earlier and occurred more rapidly in Iowa than ever before. The last three years also have been three of the highest yielding years in state history. The problem is that too many farmers are still planting their soybean way too late.

Twenty-four experiments have been conducted across Iowa since 2003 to investigate soybean planting date response. This research was funded by the checkoff and the Iowa Soybean Association and new planting date recommendations have been released based on the information gathered from these experiments. The new recommendations are based on three variables and probably the biggest change is that it does not take soil temperature into consideration. Soybean planting date is now based on calendar date (April 25 for the southern two-thirds of Iowa and May 1 for the northern one-third of Iowa), seedbed conditions, and the weather forecast for the next couple of days after planting.

### Is planting date important all over Iowa?

No matter where you are in Iowa, early planting will always give you greatest potential to achieve the highest yield. However, there are cases where early planting will yield the same as mid-May. This is mostly associated with establishment problems such as soil crusting if you do too much tillage. The conclusions from the studies were that there is a 79 percent probability that you will get a statistically greater yield by planting early compared to the “old” recommendation of mid-May or a soil temperature of minimum 55–60 °F.

### Are the yield responses the same for all Iowa?

The responses vary across the state and most of that seems to be related to yield potential. The highly productive fields respond the most to early planting and can lose as much as 0.9 bu per acre per day, whereas low productivity fields only lose about 0.2–0.3 bu per acre per day (Figure 1). Highly productive fields should

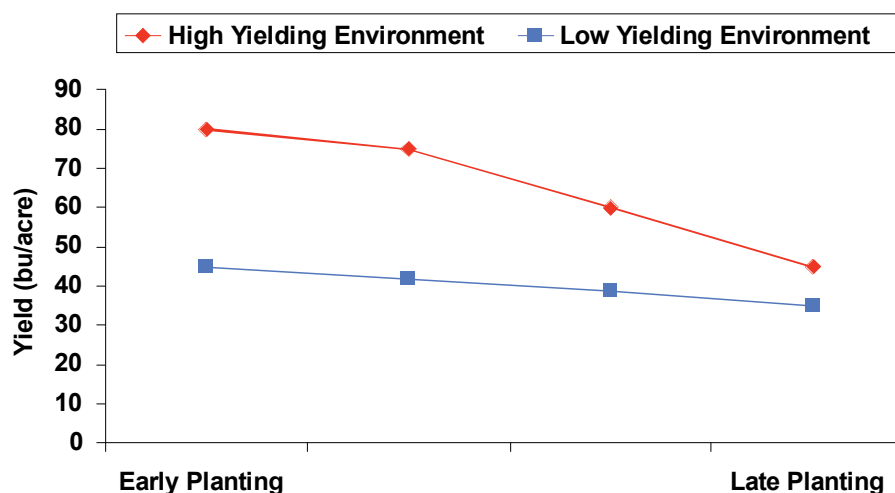


Figure 1. A planting date response model based on research conducted at 24 environments since 2003 with different yield potentials.

therefore be planted first. Farmers on well-drained and highly productive fields in Iowa, such as western, eastern, and southern Iowa, should try to get their fields planted as quickly as possible if they have a good seedbed since the yield loss from planting date in these areas often is greater than in the Des Moines Lobe, for example.

### **So what is the definition of early planting?**

Early planting or the optimum time to plant soybean is the last week of April for the southern one-third part of the state and the first week of May for the northern part of the state. May 8 or later would be considered delayed planting for any grower in Iowa and a date where yield potential has already dropped.

### **Can you plant too early?**

YES. It is very important that you follow the recommendations for the state. The recommendations have the average last spring frost taken into consideration. If you plant earlier than recommended, you will increase your risk of replanting. Normally, it takes 14 to 18 days for the plant to emerge when you plant early. If you plant too early, and emerged plants are exposed to 28 °F or colder temperatures for 3 hours or longer, you will have to replant because the growing point is above

ground as soon as the plants emerge. However, if we get a killing frost on June 1, it does not matter when we plant since most of us would have to replant.

### **What is the biggest misconception about early planting?**

The biggest misconception is that we plant early just to plant early, and then ignore everything else. By planting early, you have the potential to increase yield potential significantly. This does not mean that you can do everything the same way as you did when you planted mid-May. Early planting takes more management, and things like variety selection are more critical now since plants are more vulnerable to soilborne pathogens such as sudden death syndrome. Planting a variety without any resistance to both sudden death syndrome AND soybean cyst nematode early is like playing roulette!

Another important factor that requires weekly scouting is the over-wintering generation of bean leaf beetles. Frequent scouting is critical to be sure that no “easy” bushels are lost from them. The bottom line is that farmers should not hold back from planting early because they can easily manage bean leaf beetles, and it will only cost a fraction to manage them, if needed, compared to the yield loss that occurs due to delayed planting.

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